ONBOARD® SYSTEMS INTERNATIONAL

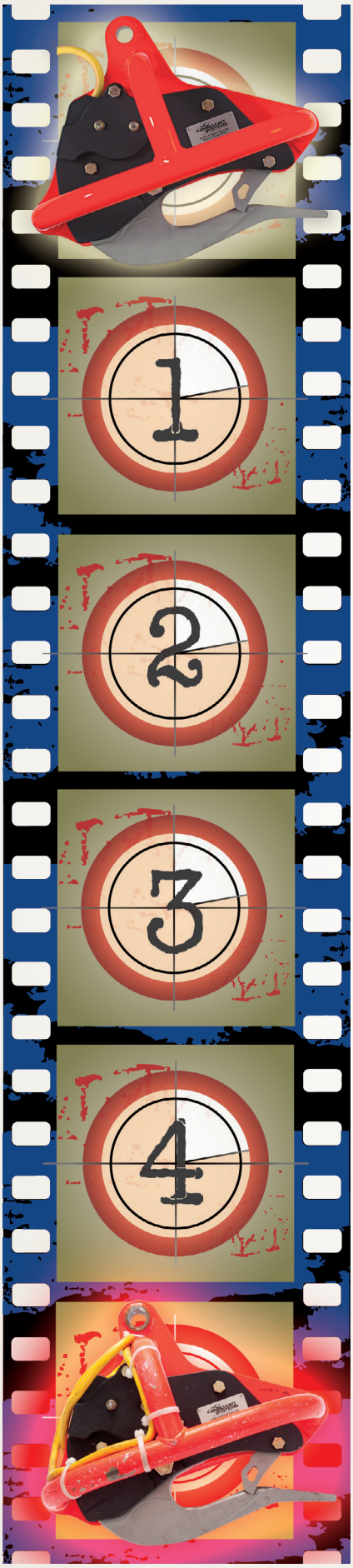
LIFT WITH CONFIDENCE®

YOUR GUIDE TO

overhaul?

+ options

FOR YOUR
ONBOARD SYSTEMS
CARGO HOOK EQUIPMENT



It's All About Options

Did you know that cargo hook equipment from Onboard Systems has some of the longest "time between overhauls" (TBO) in the industry? That's because we build high quality and thoughtful design into all of our products:

- Parts are manufactured using corrosion-resistant stainless steel whenever possible
- Non-stainless steel parts receive corrosion-resistant finishes
- Load-bearing pivot points have either a bushing or bearing for easier replacement
- Extensive in-house testing before products are released

The TBO countdown starts when you initially install your equipment on your aircraft, and will vary due to working conditions and other factors. The owner's manual, RFMS, and/or service manual for your equipment is your first and best source for specific information about determining the proper schedule for maintaining your Onboard Systems products. If you need copies of your manuals, you can find them at our website.

When the Time Comes

When it's time to service or overhaul your Onboard Systems equipment, you have several options:

- Send it back to Onboard Systems for factory service
- Send it to a qualified repair facility
- Service it yourself

This booklet will assist you in evaluating your overhaul options. If you have any questions, please contact us.

See the table on Page 12 for a side-by-side comparison

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Factory Overhaul

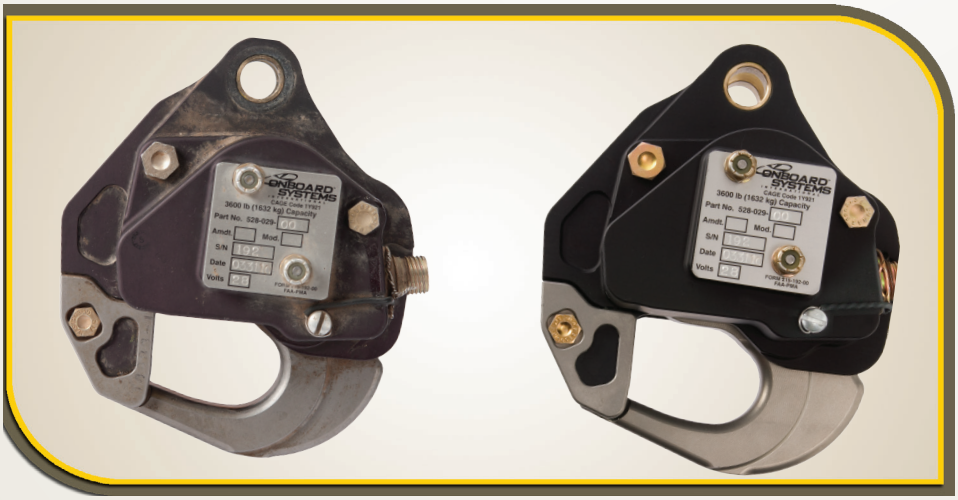
Onboard Systems operates a certified FAA Part 145 Repair Station, Number ODBR579X. We service, repair, and overhaul all the equipment we manufacture. Our Part 145 Repair Station has also been certified by EASA to issue FAA Form 8130-3 Dual Release Certificates for service work.

When you send your cargo hook equipment to Onboard for overhaul, our highly trained factory technicians will restore it to like-new condition. The electrical release harness and mechanical release cables should not be included as they can be damaged during shipping. Our standard overhaul service includes all recommended procedures listed in the service manual or component maintenance manual, including:

- Disassembly, inspection, cleaning, lubrication, and reassembly
- Replacement of all threaded fasteners, bearings, and bushing springs included in our overhaul kits
- Non-destructive inspection and testing (NDT) of structural components
- Replacement of worn or corroded parts
- Performing any outstanding Service Bulletin compliance, as required
- Refinishing
- Acceptance Test Procedures (ATP)

Onboard Weighing Systems

Due to the complexity of these products, Onboard Weighing Systems are not field serviceable and must be returned to the factory for service. Depending on the age and condition of your equipment, we will overhaul, repair, or upgrade your equipment. Please refer to your owners manual for more information; refer to document 165-003-00: Repair Department Pricing for a list of services and pricing. Exchange units are also offered for these products; please contact us for availability.



When you send your cargo hook to Onboard Systems for overhaul, we restore it to like-new condition. Here are unretouched photos of a TALON LC Keeperless hook (P/N 528-029-00) before overhaul (on the left), and after overhaul (on the right).

When you send your cargo hook to Onboard Systems for overhaul, we restore it to like-new condition. Here are unretouched photos of the same TALON 6K Remote Cargo Hook (P/N 528-019-01) before overhaul (on the left), and after overhaul (on the right).

Overhaul Times

The time needed to complete a factory overhaul will vary based on a number of factors, including the time of year, the number of units received for overhaul at any given time, and parts availability. Our Repair Station strives to complete standard overhauls within fifteen to twenty business days from receipt, but if your equipment requires parts or service above and beyond a standard overhaul, it may take longer. To get a detailed time estimate for overhauling *your* equipment, please contact us.

Fixed Pricing

Onboard Systems offers fixed pricing for standard overhauls. This helps streamline and expedite the overhaul process, since we are able to route your equipment to the shop floor for service as soon as it arrives, rather than examining it, preparing a quote and waiting for your approval to begin work. Please refer to document 165-003-00: Repair Department Pricing on our website for a list of services and pricing, or give us a call.

Service Warranty

Onboard Systems offers its standard Product Warranty for all overhauled equipment. Components are warranted to be free from defects in workmanship and materials for a period of one year from the date of overhaul, and to function as intended when properly installed and used for their intended purpose. Parts which prove to be defective will be repaired or replaced free of charge FOB factory. Visit our website to download our complete Product Warranty document.

Exchange Pool

If you are unable to be without your cargo hook for the duration of an overhaul, Onboard maintains an overhaul Exchange Pool for select cargo hook equipment. Give us a call to confirm availability, then send us your hook. When we receive it, we will immediately send you a replacement hook from our Exchange Pool. The hooks in our Exchange Pool have been meticulously restored to like-new condition by our factory technicians. This hook is now yours to keep and use; you will not receive your original hook back. Instead, your core hook will be overhauled and added back into the Exchange Pool.

Expedited Exchange Service

If you simply cannot afford to be without a cargo hook for even a short period of time, you may be interested in using our expedited Exchange Pool service. Under this program, after confirming parts availability, we will invoice you for the full price of a new cargo hook and immediately ship you a hook from our Exchange Pool upon receipt of payment. When you receive the Exchange Pool hook, simply place your old hook inside the box with the RMA form included with your shipment, and send it back to us. When we receive your old hook, we will refund the difference between the cost to overhaul your hook and the amount you were originally invoiced.

Upgrade Program

If you have an older cargo hook, you may want to consider upgrading to a newer model. We offer a number of trade-in and upgrade programs for both Onboard Systems and competitor hooks. Not only will you save money with a trade-in or upgrade, you will be able to enjoy the safety and operational advantages offered with our newer technologies, such as hydraulic hooks, keeperless hooks, pin load cells and more. For more information, please refer to document 115-124-00: Trade-in Program on our website, or give us a call.

Shipping Instructions

Before you send us a hook for service or credit, please be sure to generate an RMA number from our website, or you can call us to get one. Box up your cargo hook securely and make sure that the RMA number is included on the box and in the transit paperwork and send it to:

Onboard Systems
Attn: Your RMA Number
13915 NW 3rd Court
Vancouver, WA 98685 USA
Phone: +1.360.546.3072

For fastest international service, please use a freight carrier that can clear the package through customs, such as UPS, FedEx, DHL, etc. If you choose to send the package via an airline or other freight carrier that does not typically provide custom clearing services, one of our brokers will clear the package through customs, and we will invoice you for any fees that may occur. The closest port of entry to Onboard Systems is Portland, Oregon (PDX). To expedite customs clearance, please note one of the following customs brokers on your package, depending on the US port of entry:

PORTLAND, OREGON (PDX)
Always at Your Service
Phone: +1.503.287.9577
Fax: +1.503.287.9672

ALL OTHER US PORTS OF ENTRY
Norman G. Jensen
Phone: +1.206.248.0506
Fax: +1.206.248.3075

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Our Upgrade Program lets you exchange old technology for new technology. For example, our redesigned Onboard Weighing Systems feature stainless steel bodies, improved sealants, removable bushings, and improved electrical harnesses for greater durability. On the right is an example of an original E-72 model (P/N 200-040-01), and on the left is the redesigned model E-72 (P/N 200-040-04).

Qualified Repair Facility

An experienced aircraft maintenance facility that is capable of carrying out the overhaul procedures listed in the service manual or component maintenance manual is another option for overhauling your cargo hook. To ensure the ongoing safe operation of your equipment, here are some discussion points to help you determine if a service center can perform all of the steps required during an overhaul.

Non-Destructive Testing

The overhaul process includes the performance of non-destructive inspection and testing (NDT) of structural and load bearing parts, such as the side plates, manual release lever, load beam assembly, solenoid cam, toggle, cam, cam roller pin, etc. These tests include magnetic particle and penetrant inspection. Be sure that your service center is capable of performing the required NDT tests.

Genuine Parts

To maintain certification, all replacement parts used to overhaul your hook must match the specifications in the service manual or component maintenance manual. In addition, you will want your service facility to check for any outstanding service bulletins that may have been issued for your equipment and bring it into compliance during the overhaul process. Make sure that your repair facility has reviewed the user manuals and any safety bulletins for your cargo hook, and that they are installing the appropriate replacement parts. Manuals can be accessed 24x7 at the Onboard Systems website, and certified parts can also be ordered online.

Refinishing

To protect your cargo hook from corrosion and wear, damaged finishes and coatings on exposed parts must be touched up or reapplied. Common applications include alodine and zinc chromate primer. Other services that may be required to overhaul your hook include passivation treatments and abrasive blasting. Be sure that your service center can perform these services.

Acceptance Test Procedure

Your cargo hook will not be able to go back into service until it passes all of the Acceptance Test Procedures (ATP) outlined in the service manual, so it is important to make sure that your service center has the equipment needed to perform the ATP. If your service center cannot perform the tests, either you or they can send the hook to the Onboard Systems factory and we will perform the ATP for a flat fee. Please refer to document 165-003-00: Repair Department Pricing for more information.

Exchange Pool

Some service facilities maintain an exchange pool of cargo hooks, which is an important service if you cannot afford to be without your cargo hook for the duration of an overhaul. For certified equipment (such as a belly hook), you'll need to confirm that the exchange pool hook being offered is the same part number as the hook you are sending in for overhaul.

Service Warranty

When it comes to external load operations, your cargo hook is an essential component for the success of your loadwork missions, and is usually a source of significant revenue for your business. For your own peace of mind, it is important to work with a reputable maintenance facility that stands behind their work with a written service warranty that covers both parts and service.

Automated Update Notification Service

Stay on top of safety alerts and documentation updates for your Onboard Systems equipment with our free automated notification service. Just visit the Customer Support area of the Onboard Systems website and choose "Document Update Service" from the menu. Set up a User ID and password, then select your products. You can choose to receive notifications by email or fax, and select immediate notification of any change, or a weekly or monthly summary of changes. You can switch your preferences at any time by logging back into the system. And if you forget your password, you can ask the system to email or fax it to you.

Do it Yourself

One of the many benefits of owning cargo hook equipment from Onboard Systems is that our hooks are easy to overhaul. Simply disassemble and inspect the parts of your hook according to the instructions in your service manual, then replace any parts as required using simple hand tools.

Start with the Manual

The service manual or component maintenance manual for your cargo hook equipment is your first and best source for specific information about overhauling your cargo hook. Be sure to visit the Onboard Systems website to obtain the most recent editions of your product's user manuals before you begin. While you're there, check for any service bulletins that may have been issued for your equipment. This can be quickly done by using the search box located in the upper right corner of the website screen.

Overhaul Kits

For your convenience, consider buying a Cargo Hook Overhaul Kit to expedite and simplify the overhaul process. These kits include all of the parts and components used by our own factory technicians in our certified Repair Station. Our overhaul kits will greatly reduce the hassle of overhauling your cargo hook while saving you time and money! For more information about our overhaul kits, please refer to our catalog, visit our website or give us a call.

Non-Destructive Testing

Probably the most challenging task for a small operator to perform is the non-destructive inspection and testing (NDT) of structural and load bearing parts. You may need to send your hook to a local lab to perform this part of the overhaul process for you. This important step ensures that all of the load-bearing parts of your hook are sound and fit for continued work.

Refinishing

To protect your cargo hook from corrosion and wear, damaged finishes and coatings on exposed parts must be touched up or reapplied. Common applications include alodine and zinc chromate primer. Other services that may be required to overhaul your hook include passivation treatments and abrasive blasting. If you don't have the expertise to perform these tasks, you may need to send the affected parts out to a local shop to have these services performed for you.

Acceptance Test Procedure

Your cargo hook will not be able to go back into service until it passes all of the Acceptance Test Procedures (ATP) outlined in the service manual. If you have the ability to perform the overhaul in house, but don't have the equipment for the ATP, you can always send the hook to the Onboard Systems factory for the ATP. We charge a flat fee for this service, which is detailed in our document 165-004-00: Repair Department Pricing. Please visit our website to get a copy or give us a call.

Our Cargo Hook Overhaul Kits will greatly reduce the hassle of overhauling your cargo hook by saving you time and money. Here are some of the parts in our TALON MC Keeperless Cargo Hook Overhaul kit (P/N 212-011-00)

Compare Your Options

	FACTORY SERVICE	QUALIFIED REPAIR FACILITY	DO IT YOURSELF
OVERHAUL SERVICES			
Disassembly	✔	✔	✔
Inspection	✔	✔	✔
Non-destructive Testing	✔	Possibly	Possibly
Check for Service Bulletins	✔	Upon Request	✔
Cleaning & Lubrication	✔	✔	✔
Replace worn parts	✔	✔	✔
Refinishing	✔	Possibly	Possibly
Reassembly	✔	✔	✔
Perform ATP	✔	Possibly	Possibly
VALUE-ADDED SERVICES			
Genuine Factory Parts	✔	Upon Request	✔
Fixed Pricing for Overhauls	✔	Possibly	N/A
Exchange Pool	✔	Possibly	N/A
Expedited Exchange Service	✔	Possibly	N/A
Upgrades & Trade-ins	✔	Possibly	N/A
Service Warranty	✔	Possibly	N/A

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